

03040201-06

(*Black Creek/Lake Robinson*)

General Description

Watershed 03040201-06 (formerly 03040201-100) is located Chesterfield and Darlington Counties and consists primarily of **Black Creek** and its tributaries from its origin to the Lake Robinson dam. The watershed occupies 109,343 acres of the Sandhills region of South Carolina. Land use/land cover in the watershed includes: 42.8% forested land, 36.4% agricultural land, 9.2% forested wetland, 6.2% urban land, 2.3% water, 2.2% scrub/shrub land, 0.5% barren land, and 0.4% nonforested wetland

Black Creek originates near the Town of Pageland and accepts drainage from Old Town Pond, Cattail Branch, Mangum Branch, Boggy Branch, Rocky Branch, Big Branch, Panther Branch, Tan Trough Branch, and Cotton Patch Branch. Big Ruddy Branch enters the system next followed by Silver Run, Little Ruddy Branch, Still Branch, Horsepen Branch, Hurricane Branch, Joplin Branch (Stancil Lakes), Big Branch, and Meadow Branch (Joplin Mill Branch). Further downstream, Rattlesnake Branch (Dismal Spring Branch) flows into Black Creek followed by Jessies Branch, Little Black Creek (Graves Millpond, Peddler Branch, Martin Branch, Woodward Millpond), Canal Branch, and Poplar Branch. Black Creek then accepts drainage from Skipper Creek (Peeled Oak Branch, Dead Pine Branch, Little Skipper Creek), Rogers Branch, Pond Branch, Long Branch (Clay Ford Branch, Mays Lake), Ham Creek (Triple Lakes, Lake Bee, Hemp Branch, Lightwood Log Branch, Poplar Branch, Martin Lake, Cow Branch), and Little Alligator Creek before flowing through Lake Robinson. Little Beaverdam Branch and Lower Alligator Creek flow into the headwaters of the lake, Big Beaverdam Creek flows into the midsection, and Pond Hollow Branch enters the lake near the dam. The Carolina Sandhills National Wildlife Refuge extends across the center of the watershed, and the Sand Hills State Forest lies between the refuge and the lake. There are a total of 175.2 stream miles and 2,452.8 acres of lake waters in this watershed. Black Creek and its tributaries upstream of the S.C. Hwy. 145 crossing (just upstream of Skipper Creek) are classified FW. Downstream of the crossing, Black Creek is classified FW* (Dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and its tributaries are classified FW. Lake Robinson is classified FW*.

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
PD-674	BIO	FW	BLACK CREEK AT SR 683
RS-03355	RS03	FW	BLACK CK AT UNNAMED RD OFF S-13-683, 4.3MI SE OF PAGELAND
PD-004	P/W	FW	BLACK CREEK AT S-13-43, 1 MI NE OF NICEY GROVE
PD-676	BIO	FW	LITTLE BLACK CREEK AT ZILLYSTEEN ROAD
PD-613	BIO	FW	SKIPPER CREEK AT SC 145
PD-251	W/INT	FW*	BLACK CREEK AT US 1
PD-327 (RL-03342)	P/INT	FW*	LAKE ROBINSON AT S-13-346, 5 MI E OF MCBEE
CL-094	INT	FW*	LAKE ROBINSON IN FOREBAY EQUI FROM DAM AND SHORELINES

Black Creek – There are four SCDHEC monitoring sites along this section of Black Creek. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at all monitored sites, they were typical of values seen in blackwater systems and were

considered natural, not standards violations. At the furthest upstream site (**PD-674**), aquatic life uses are fully supported based on macroinvertebrate community data. At the next site downstream (**RS-03355**), aquatic life and recreational uses are fully supported. Further downstream (**PD-004**), aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biological oxygen demand. There is a significant increasing trend in pH. Significant decreasing trends in total phosphorus concentration and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters. At the furthest downstream site (**PD-251**), aquatic life and recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Little Black Creek (PD-676) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Skipper Creek (PD-613) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Lake Robinson – There are two SCDHEC monitoring sites along Lake Robinson and recreational uses are fully supported at both sites. At the uplake site (**PD-327**), aquatic life uses are fully supported. There is a significant increasing trend in pH. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. A very high concentration of cadmium and a high concentration of copper were measured in the 2003 sediment sample. Also detected in the 2003 sample were endrin aldehyde, lindane, DDT, DDD, and DDE (metabolites of DDT). Although the use of DDT was banned in 1973, it is very persistent in the environment. Aquatic life uses are fully supported at the downlake site (**CL-094**).

*A fish consumption advisory has been issued by the Department for mercury and includes **Black Creek** and **Lake Robinson** within this watershed (see advisory p.130).*

Natural Swimming Areas

FACILITY NAME RECEIVING STREAM	PERMIT # STATUS
JOHNSONS LANDING LAKE ROBINSON	16-N07 ACTIVE
EASTERLING LANDING LAKE ROBINSON	16-N06 ACTIVE

Groundwater Quality

<u>Well #</u>	<u>Class</u>	<u>Aquifer</u>	<u>Location</u>
AMB-112	GB	PIEDMONT BEDROCK	WESTSIDE ESTATES

NPDES Program

Active NPDES Facilities

RECEIVING STREAM

FACILITY NAME

PERMITTED FLOW @ PIPE (MGD)

NPDES#

TYPE

COMMENT

BLACK CREEK HANSON AGGREGATES SE/BREWER PIPE #: 001, 002 FLOW: M/R	SCG730286 MINOR INDUSTRIAL
LITTLE BLACK CREEK B.V. HEDRICK SAND & GRAVEL CO./PIEDMONT MINE PIPE #: 001 FLOW: M/R	SCG730045 MINOR INDUSTRIAL
LITTLE BLACK CREEK B.V. HEDRICK SAND & GRAVEL CO./WILLIAMS MINE PIPE #: 001 FLOW: M/R	SCG730590 MINOR INDUSTRIAL
LITTLE BLACK CREEK CEMEX CONSTR. MATERIAL/PAGELAND #2 PIPE #: 001 FLOW: M/R	SCG730704 MINOR INDUSTRIAL
LITTLE BLACK CREEK TRIBUTARY PAGELAND SAND/MINE #2 PIPE #: 001 FLOW: M/R	SCG730204 MINOR INDUSTRIAL
LITTLE BLACK CREEK TRIBUTARY PAGELAND SAND/MINE #3 PIPE #: 001 FLOW: M/R	SCG730455 MINOR INDUSTRIAL
LITTLE BLACK CREEK TRIBUTARY PAGELAND SAND/MINE #4 PIPE #: 001 FLOW: M/R	SCG730456 MINOR INDUSTRIAL
ROCKY BRANCH CEMEX CONSTR. MATERIAL/PAGELAND #2 PIPE #: 001 FLOW: M/R	SCG730704 MINOR INDUSTRIAL
LITTLE BEAVERDAM BRANCH PALMETTO BRICK CO./MIDDENDORF MINE PIPE #: 001 FLOW: M/R	SCG730388 MINOR INDUSTRIAL
LAKE ROBINSON/BLACK CREEK PROGRESS ENERGY/HB ROBINSON PIPE #: 001 (002,003,009,013) FLOW: 855.0	SC0002925 MAJOR INDUSTRIAL
CATTAIL BRANCH TOWN OF PAGELAND/SOUTHEAST WWTP PIPE #: 001 FLOW: 0.6	SC0021539 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME

FACILITY TYPE

PERMIT #

STATUS

CHESTERFIELD COUNTY LF #2/JEFFERSON MUNICIPAL	131001-1101 CLOSED
--	-----------------------

CHESTERFIELD COUNTY DUMP

CLOSED

TOWN OF PAGELAND
INDUSTRIAL

131002-3001
ACTIVE

PROGRESS ENERGY LANDFILL
INDUSTRIAL

163341-1601, 163341-1602
ACTIVE

Mining Activities

***MINING COMPANY
MINE NAME***

***PERMIT #
MINERAL***

B.V. HEDRICK GRAVEL & SAND CO.
PIEDMONT SAND

0665-25
SAND

BARRINGER SAND, LLC.
BARRINGER SAND MINE

1474-25
SAND

PALMETTO BRICK CO.
MIDDENDORF MINE

1367-25
KAOLIN

CEMEX CONSTRUCTION MATERIALS
PAGELAND SAND PIT #2

0426-25
SAND

PAGELAND SAND CO., INC.
PAGELAND SAND MINE #2

0746-25
SAND

PAGELAND SAND CO., INC.
PAGELAND SAND MINE #3

1332-25
SAND

BV HEDRICK GRAVEL & SAND CO.
WILLIAMS SAND

0969-25
SAND

Growth Potential

There is a low potential for growth in this rural watershed, which contains a portion of the Town of Pageland. The Town of McBee is just outside the watershed. A sizeable portion of the watershed is publicly owned lands within the Carolina Sandhills National Wildlife Refuge or the Sand Hills State Forest, limiting development in these areas. S.C. Hwy. 151 is a four-lane highway connecting the Cities of Florence and Charlotte, and together with its bypass around the Town of Pageland should see additional commercial and industrial development in the northern portion of the watershed. Water service is limited to Pageland and McBee, and sewer service exists only in the Pageland area.